



1-1-1913

## Lessons of the Wilderness.

John Muir

Follow this and additional works at: <https://scholarlycommons.pacific.edu/jmb>

---

### Recommended Citation

Muir, John, "Lessons of the Wilderness." (1913). *John Muir: A Reading Bibliography by Kimes*. 353.  
<https://scholarlycommons.pacific.edu/jmb/353>

This Article is brought to you for free and open access by the John Muir Papers at Scholarly Commons. It has been accepted for inclusion in John Muir: A Reading Bibliography by Kimes by an authorized administrator of Scholarly Commons. For more information, please contact [mgibney@pacific.edu](mailto:mgibney@pacific.edu).

## LESSONS OF THE WILDERNESS<sup>1</sup>

BY JOHN MUIR

### I

EXCEPTING Sundays we boys had only two days of the year to ourselves, the 4th of July and the 1st of January. Sundays were less than half our own, on account of Bible lessons, Sunday-school lessons, and church services; all the others were labor-days, rain or shine, cold or warm. No wonder then that our two holidays were precious, and that it was not easy to decide what to do with them. They were usually spent on the highest rocky hill in the neighborhood, called the Observatory; in visiting our boy friends on adjacent farms to hunt, fish, wrestle, and play games; in reading some new favorite book we had managed to borrow or buy; or in making models of machines I had invented.

One of our July days was spent with two Scotch boys of our own age, hunting redwing blackbirds then busy in the cornfields. Our party had only one single-barreled shot-gun, which, as the oldest, and perhaps because I was thought to be the best shot, I had the honor of carrying. We marched through the corn without getting sight of a single redwing, but just as we reached the far side of the field a red-headed woodpecker flew up and the Lawson boys cried, 'Shoot him! shoot him! he is just as bad as a blackbird. He eats corn!'

This memorable woodpecker alight-

<sup>1</sup> Earlier chapters of John Muir's autobiography have been published in the November and December issues of the *Atlantic*. — THE EDITORS.

ed in the top of a white oak tree about fifty feet high. I fired from a position almost immediately beneath him and he fell straight down at my feet. When I picked him up and was admiring his plumage he moved his legs slightly and I said, 'Poor bird, he's no deed yet and we'll hae to kill him to put him oot o' pain,'—sincerely pitying him, after we had taken pleasure in shooting him. I had seen servant-girls wringing chickens' necks, so with desperate humanity I took the limp unfortunate by the head, swung him around three or four times, thinking I was wringing his neck, and then threw him hard on the ground to quench the last possible spark of life and make quick death doubly sure. But to our astonishment the moment he struck the ground he gave a cry of alarm and flew right straight up like a rejoicing lark into the top of the same tree, and perhaps to the same branch he had fallen from, and began to adjust his ruffled feathers, nodding and chirping and looking down at us as if wondering what in the bird world we had been doing to him. This, of course, banished all thought of killing, so far as that revived woodpecker was concerned, no matter how many ears of corn he might spoil, and we all heartily congratulated him on his wonderful, triumphant resurrection from three kinds of death,—shooting, neck-wringing, and destructive concussion. I suppose only one pellet had touched him, glancing on his head.

We saw very little of the owlsh, serious-looking coons, and no wonder,

since they lie hidden nearly all day in hollow trees, and we never had time to hunt them. We often heard their curious, quavering, whining cries on still evenings, but only once succeeded in tracing an unfortunate family through our cornfield to their den in a big oak and catching them all. One of our neighbors, Mr. McRath, a Highland Scotchman, caught one and made a pet of it.

So far as I know, all wild creatures keep themselves clean. Birds, it seems to me, take more pains to bathe and dress themselves than any other animals. Even ducks, though living so much in water, dip and scatter cleansing showers over their backs, and shake and preen their feathers as carefully as land birds. Watching small singers taking their morning baths is very interesting, particularly when the weather is cold. Alighting in a shallow pool, they oftentimes show a sort of dread of dipping into it, like children hesitating about taking a plunge, as if they were subject to the same kind of shock, and this makes it easy for us to sympathize with the little feathered people.

Occasionally I have seen from my study window red-headed linnets bathing in dew when water elsewhere was scarce. A large Monterey cypress with broad branches and innumerable leaves on which the dew lodges in still nights made a favorite bathing-place. Alighting gently, as if afraid to waste the dew, they would pause, and fidget as they do before beginning to plash in pools; then dip and scatter the drops in showers and get as thorough a bath as they would in a pool. I have also seen the same kind of baths taken by birds on the boughs of silver firs on the edge of a glacier meadow, but nowhere have I seen the dewdrops so abundant as on the Monterey cypress; and the picture made by the quivering

wings and irised dew was memorably beautiful. Children, too, make fine pictures plashing and crowing in their little tubs. How widely different from wallowing pigs, bathing with great show of comfort, and rubbing themselves dry against rough-barked trees!

Some of our own species seem fairly to dread the touch of water. When the necessity of absolute cleanliness by means of frequent baths was being preached by a friend who had been reading Comb's *Physiology*, in which he had learned something of the wonders of the skin, with its millions of pores that had to be kept open for health, one of our neighbors remarked, 'Oh! that's unnatural. It's well enough to wash in a tub maybe once or twice in a year, but not to be paddling in the water all the time like a frog in a spring-hole.' Another neighbor, who prided himself on his knowledge of big words, said, with great solemnity, 'I never can believe that man is amphibious!'

It seemed very wonderful to us that the wild animals could keep themselves warm and strong in winter when the temperature was far below zero. Feeble-looking rabbits scudded away over the snow, lithe and elastic, as if glorying in the frosty sparkling weather and sure of their dinners. I have seen gray squirrels dragging ears of corn, about as heavy as themselves, out of their field through loose snow and up a tree, balancing them on limbs and eating in comfort with their dry electric tails spread airily over their backs. Once I saw a fine hardy fellow go into a knot-hole. Thrusting in my hand, I caught him and dragged him out. As soon as he guessed what I was up to, he took the end of my thumb in his mouth and sunk his teeth right through it, but I gripped him hard by the neck, carried him home, and shut him up in a box that contained about half a bushel of

hazel and hickory nuts, hoping that he would not be too much frightened and discouraged to eat, while thus imprisoned, after the rough handling he had suffered.

I soon learned, however, that sympathy in this direction was wasted; for no sooner did I pop him in than he fell to with right hearty appetite, gnawing and munching the nuts as if he had gathered them himself and were very hungry that day. Therefore, after allowing time enough for a good square meal, I made haste to get him out of the nut-box and shut him up in a spare bedroom, in which father had hung a lot of selected ears of Indian corn for seed. They were hung up by the husks on cords stretched across from side to side of the room. The squirrel managed to jump from the top of one of the bed-posts to the cord, cut off an ear, and let it drop to the floor. He then jumped down, got a good grip of the heavy ear, carried it to the top of one of the slippery, polished bed-posts, seated himself comfortably, and, holding it balanced, deliberately pried out one kernel at a time with his long chisel teeth, ate the soft, sweet germ, and dropped the hard part of the kernel. In this masterly way, working at high speed, he demolished several ears a day, and with a good warm bed in a box made himself at home and grew fat. Then, naturally, I suppose, free romping in the snow and tree-tops with companions came to mind. Anyhow he began to look for a way of escape. Of course, he first tried the window, but found that his teeth made no impression on the glass. Next he tried the sash and gnawed the wood off level with the glass; then father happened to come upstairs and discovered the mischief that was being done to his seed-corn and window, and immediately ordered him out of the house.

Before the arrival of farmers in the Wisconsin woods the small ground squirrels, called 'gophers,' lived chiefly on the seeds of wild grasses and weeds; but after the country was cleared and ploughed, no feasting animal fell to more heartily on the farmer's wheat and corn. Increasing rapidly in numbers and knowledge, they became very destructive, particularly in the spring when the corn was planted, for they learned to trace the rows and dig up and eat the three or four seeds in each hill about as fast as the poor farmers could cover them. And, unless great pains were taken to diminish the numbers of the cunning little robbers, the fields had to be planted two or three times over, and even then large gaps in the rows would be found. The loss of the grain they consumed after it was ripe, together with the winter stores laid up in their burrows, amounted to little as compared with the loss of the seed on which the whole crop depended.

One evening about sundown, when my father sent me out with the shotgun to hunt them in a stubble field, I learned something curious and interesting in connection with these mischievous gophers, though just then they were doing no harm. As I strolled through the stubble, watching for a chance for a shot, a shrike flew past me, and alighted on an open spot at the mouth of a burrow about thirty yards ahead of me. Curious to see what he was up to, I stood still to watch him. He looked down the gopher-hole in a listening attitude, then looked back at me to see if I was coming, looked down again and listened, and looked back at me. I stood perfectly still, and he kept twitching his tail, seeming uneasy and doubtful about venturing to do the savage job that I soon learned he had in his mind. Finally, encouraged by my keeping so still, to my astonishment



he suddenly vanished in the gopher-hole.

A bird going down a deep narrow hole in the ground like a ferret or a weasel seemed very strange, and I thought it would be a fine thing to run forward, clap my hand over the hole, and have the fun of imprisoning him and seeing what he would do when he tried to get out. So I ran forward, but stopped when I got within a dozen or fifteen yards of the hole, thinking it might, perhaps, be more interesting, to wait and see what would naturally happen without my interference. While I stood there looking and listening, I heard a great disturbance going on in the burrow, a mixed lot of keen squeaking, shrieking, distressful cries, telling that down in the dark something terrible was being done.

Then suddenly out popped a half-grown gopher, four and a half or five inches long, and, without stopping a single moment to choose a way of escape, ran screaming through the stubble straight away from its home, quickly followed by another and another, until some half dozen were driven out, all of them crying and running in different directions, as if at this dreadful time 'home, sweet home' was the most dangerous and least desirable of all places in the wide world. Then out came the shriek, flew above the runaway gopher children, and, diving on them, killed them one after another with blows at the back of the skull. He then seized one of them, dragged it to the top of a small clod, so as to be able to get a start, and laboriously made out to fly with it about ten or fifteen yards, when he alighted to rest. Then he dragged it to the top of another clod and flew with it about the same distance, repeating this hard work over and over again, until he managed to get one of the gophers on to the top of a log fence. How much he ate of his hard-won prey,

or what he did with the others, I can't tell, for by this time the sun was down, and I had to hurry home to my chores.

## II

At first, wheat, corn, and potatoes were the principal crops we raised; wheat especially. But in four or five years the soil was so exhausted that only five or six bushels an acre, even in the better fields, were obtained, although when first ploughed twenty and twenty-five bushels were about the ordinary yield. More attention was then paid to corn, but without fertilizers the corn crop also became very meagre. At last it was discovered that English clover would grow on even the exhausted fields, and that when ploughed under and planted with corn, or even wheat, wonderful crops were raised. This caused a complete change in farming methods: the farmers raised fertilizing clover, planted corn, and fed the crop to cattle and hogs.

In summer the chores were grinding scythes, feeding the animals, chopping stove-wood, and carrying water up the hill from the spring on the edge of the meadow, and so forth. Then breakfast, and to the harvest or hayfield. I was foolishly ambitious to be first in mowing and cradling, and, by the time I was sixteen, led all the hired men. An hour was allowed at noon, and then more chores. We stayed in the field until dark; then supper, and still more chores, family worship, and to bed; making altogether a hard, sweaty day of about sixteen or seventeen hours. Think of that, ye blessed eight-hour-day laborers!

In winter, father came to the foot of the stairs and called us at six o'clock to feed the horses and cattle, grind axes, bring in wood, and do any other chores required; then breakfast, and out to work in the mealy, frosty snow

by daybreak, chopping, fencing, and so forth. So in general our winter work was about as restless and trying as that of the long-day summer. No matter what the weather, there was always something to do. During heavy rain- or snow-storms we worked in the barn, shelling corn, fanning wheat, thrashing with the flail, making axe-handles, ox-yokes, mending things, or sorting sprouting potatoes in the cellar.

No pains were taken to diminish or in any way soften the natural hardships of this pioneer farm-life; nor did any of the Europeans seem to know how to find reasonable ease and comfort if they would. The very best oak and hickory fuel was embarrassingly abundant and cost nothing but cutting and common sense; but instead of hauling great heart-cheering loads of it for wide, open, all-welcoming, climate-changing, beauty-making, God-like ingle-fires, it was hauled with weary, heart-breaking industry into fences and waste places, to get it out of the way of the plough, and out of the way of doing good.

The only fire for the whole house was the kitchen stove, with a fire-box about eighteen inches long and eight inches wide and deep, — scant space for three or four small sticks, around which, in hard zero weather, all the family of ten persons shivered, and beneath which, in the morning, we found our socks and coarse soggy boots frozen solid. We were not allowed to start even this despicable little fire in its black box to thaw them. No, we had to squeeze our throbbing, aching, chilblained feet into them, causing greater pain than toothache, and hurry out to chores. Fortunately the miserable chilblain pain began to abate as soon as the temperature of our feet approached the freezing-point, enabling us, in spite of hard work and hard frost, to enjoy the winter beauty,

— the wonderful radiance of the snow when it was starry with crystals, and the dawns and the sunsets and white noons, and the cheery enlivening company of the brave chickadees and nut-hatches.

The winter stars far surpassed those of our stormy Scotland in brightness, and we gazed and gazed as though we had never seen stars before. Oftentimes the heavens were made still more glorious by auroras, the long lance rays, called 'Merry Dancers' in Scotland, streaming with startling tremulous motion to the zenith. Usually the electric auroral light is white or pale yellow, but in the third or fourth of our Wisconsin winters there was a magnificently colored aurora that was seen and admired over nearly all the continent. The whole sky was draped in graceful purple and crimson folds glorious beyond description. Father called us out into the yard in front of the house where we had a wide view, crying, 'Come! Come, mother! Come, bairns! and see the glory of God. All the sky is clad in a robe of red light. Look straight up to the crown where the folds are gathered. Hush and wonder and adore, for surely this is the clothing of the Lord Himself, and perhaps He will even now appear looking down from his high heaven.' This celestial show was far more glorious than anything we had ever yet beheld, and throughout that wonderful winter hardly anything else was spoken of.

We even enjoyed the snow-storms; the thronging crystals, like daisies, coming down separate and distinct, were very different from the tufted flakes we enjoyed so much in Scotland, when we ran into the midst of the slow-falling, feathery throng shouting with enthusiasm, 'Jennie's plucking her doos [doves]! Jennie's plucking her doos!'

Nature has many ways of thinning and pruning and trimming her forests

— lightning strokes, heavy snow, and storm-winds to shatter and blow down whole trees here and there, or break off branches as required. The results of these methods I have observed in different forests, but only once have I seen pruning by rain. The rain froze on the trees as it fell, and the ice grew so thick and heavy that many of them lost a third or more of their branches. The view of the woods when the storm had passed and the sun shone forth was something never to be forgotten. Every twig and branch and rugged trunk was encased in pure crystal ice, and each oak and hickory and willow became a fairy crystal palace. Such dazzling brilliance, such effects of white light and irised light, glowing and flashing, I had never seen, nor have I since. This sudden change of the leafless woods to glowing silver was, like the great aurora, spoken of for years, and is one of the most beautiful of the many pictures that enrich my life. And besides the great shows there were thousands of others, even in the coldest weather, manifesting the utmost fineness and tenderness of beauty, and affording noble compensation for hardship and pain.

### III

Although in the spring of 1849 there was no other settler within a radius of four miles of our Fountain Lake farm, in three or four years almost every quarter-section of government land was taken up, mostly by enthusiastic home-seekers from Great Britain, with only here and there Yankee families from adjacent states, who had come drifting indefinitely westward in covered wagons, seeking their fortunes like winged seeds; all alike striking root and gripping the glacial drift-soil as naturally as oak and hickory trees; happy and hopeful, establishing homes,

and making wider and wider fields in the hospitable wilderness. The axe and plough were kept very busy; cattle, horses, sheep, and pigs multiplied; barns and corn-cribs were filled up, and man and beast were well fed; a school-house was built which was used also for a church, and in a very short time the new country began to look like an old one.

Comparatively few of the first settlers suffered from serious accidents. One of the neighbors had a finger shot off, and on a bitter, frosty night, had to be taken to a surgeon in Portage, in a sled drawn by slow, plodding oxen, to have the shattered stump dressed. Another fell from his wagon and was killed by the wheel passing over his body. An acre of ground was reserved and fenced for graves, and soon consumption came to fill it. One of the saddest instances was that of a Scotch family from Edinburgh, consisting of a father, son, and daughter, who settled on eighty acres of land within half a mile of our place. The daughter died of consumption the third year after their arrival, the son one or two years later, and at last the father followed his two children, completely wiping out the entire family. Thus sadly ended bright hopes and dreams of a happy home in rich and free America.

Another neighbor, I remember, after a lingering illness, died of the same disease in midwinter, and his funeral was attended by the neighbors, in sleighs, during a driving snow-storm when the thermometer was fifteen or twenty degrees below zero.

One of the saddest deaths from other causes than consumption was that of a poor feeble-minded man whose brother, a sturdy blacksmith and preacher, and so forth, was a very hard taskmaster. Poor half-witted Charlie was kept steadily at work — although he was not able to do much, for his body was about

as feeble as his mind. He never could be taught the right use of an axe, and when he was set to chopping down trees for fire-wood, he feebly hacked and chipped round and round them, sometimes spending several days in nibbling down a tree that a beaver might have gnawed down in half the time. Occasionally, when he had an extra large tree to chop, he would go home and report that the tree was too tough and strong for him, and that he could never make it fall. Then his brother, calling him a useless creature, would fell it with a few well-directed strokes, and leave Charlie to nibble away at it for weeks trying to make it into stove-wood.

The brawny blacksmith-minister punished his feeble brother without any show of mercy for every trivial offense or mistake or pathetic little shortcoming. All the neighbors pitied him — especially the women, who never missed an opportunity to give him kind words, cookies, and pie; above all they bestowed natural sympathy on the poor imbecile as if he were an unfortunate motherless child. In particular, his nearest neighbors, Scotch Highlanders, warmly welcomed him to their home and never wearied in doing everything that tender sympathy could suggest. To those friends he ran away at every opportunity. But, after years of suffering from overwork and punishment, his feeble health failed, and he told his Scotch friends one day that he was not able to work any more or do anything that his brother wanted him to do, that he was beaten every day, and that he had come to thank them for their kindness and bid them good-bye, for he was going to drown himself in Muir's lake.

'Oh, Charlie! Charlie!' they cried, 'you must n't talk that way. Cheer up! You will soon be stronger. We all love you. Cheer up! Cheer up!

And always come here whenever you need anything.'

'Oh, no! my friends,' he pathetically replied, 'I know you love me, but I can't cheer up any more. My heart's gone, and I want to die.'

Next day, when Mr. Anderson, a carpenter whose house was on the west shore of our lake, was going to a spring, he saw a man wade out through the rushes and lily-pads and throw himself forward into deep water. This was poor Charlie. Fortunately Mr. Anderson had a skiff close by and, as the distance was not great, he reached the broken-hearted imbecile in time to save his life, and after trying to cheer him took him home to his brother. But even this terrible proof of despair failed to soften the latter. He seemed to regard the attempt at suicide simply as a crime calculated to bring the reproach of the neighbors upon him. One morning, after receiving another beating, Charlie was set to work chopping fire-wood in front of the house, and after feebly swinging his axe a few times he pitched forward on his face and died on the wood-pile. The unnatural brother then walked over to the neighbor who had saved Charlie from drowning, and, after talking on ordinary affairs, crops, the weather, and so forth, said in a careless tone, 'I have a little job of carpenter work for you, Mr. Anderson.' 'What is it, Mr. —?' 'I want you to make a coffin.' 'A coffin!' said the startled carpenter. 'Who is dead?' 'Charlie,' he coolly replied.

All the neighbors were in tears over the poor child-man's fate. But, strange to say, in all that excessively law-abiding neighborhood, nobody was bold enough or kind enough to break the blacksmith's jaw.

The mixed lot of settlers around us offered a favorable field for observation of the different kinds of people of



our own race. We were swift to note the way they behaved, the differences in their religion and morals, and in their ways of drawing a living from the same kind of soil under the same general conditions; how they protected themselves from the weather; how they were influenced by new doctrines and old ones seen in new lights, in preaching, lecturing, debating, bringing up their children, and so forth, and how they regarded the Indians, those first settlers and owners of the ground that was being made into farms.

I well remember my father's discussing with a Scotch neighbor, a Mr. George Mair, the Indian question, as to the rightful ownership of the soil. Mr. Mair remarked one day that it was pitiful to see how the unfortunate Indians, children of Nature, living on the natural products of the soil, hunting, fishing, and even cultivating small cornfields on the most fertile spots, were now being robbed of their lands, and pushed ruthlessly back into narrower and narrower limits by alien races who were cutting off their means of livelihood. Father replied that surely it could never have been the intention of God to allow Indians to rove and hunt over so fertile a country, and hold it forever in unproductive wilderness, while Scotch and Irish and English farmers could put it to so much better use. Where an Indian required thousands of acres for his family, these acres, in the hands of industrious God-fearing farmers, would support ten or a hundred times more people in a far worthier manner, while at the same time helping to spread the gospel.

Mr. Mair urged that such farming as our first immigrants were practicing was in many ways rude and full of the mistakes of ignorance; yet rude as it was, and ill-tilled as were most of our Wisconsin farms by unskillful inexperienced settlers, who had been mer-

chants and mechanics and servants in the old countries, how would we like to have specially trained and educated farmers drive us out of our homes and farms, such as they were, making use of the same argument, that God could never have intended such ignorant, unprofitable, devastating farmers as we were to occupy land upon which scientific farmers could raise five or ten times as much per acre as we did? No, my father retorted, the Lord intended that we should be driven out by those who could make a right worthy use of the soil. And I well remember thinking that Mr. Mair had the better side of the argument.

## IV

I was put to the plough at the age of twelve, when my head reached but little above the handles, and for many years I had to do the greater part of the ploughing. It was hard work for so small a boy: nevertheless, as good ploughing was exacted from me as if I were a man, and very soon I had become a good ploughman, or rather plough-boy; none could draw a straighter furrow. For the first few years the work was particularly hard on account of the tree-stumps that had to be dodged. Later the stumps were all dug and chopped out to make way for the McCormick reaper, and because I proved to be the best chopper and stump-digger, I had nearly all of it to myself. It was dull hard work in the dog-days after harvest, digging and leaning over on my knees all day, chopping out those tough oak and hickory stumps deep down below the crowns of the big roots. Some, though fortunately not many, were two feet or more in diameter.

And, being the eldest boy, the greater part of all the other hard work of the farm quite naturally fell on me. I had

to split rails for long lines of zigzag fences. The trees that were tall enough and straight enough to afford one or two logs ten feet long were used for rails, the others, too knotty or cross-grained, were disposed of in log and cord-wood fences. Making rails was hard work, and required no little skill. I used to cut and split a hundred a day from our short knotty oak timber, swinging the axe and heavy mallet, often with sore hands, from early morning to night. Father was not successful as a rail-splitter. After trying the work with me a day or two, he in despair left it all to me. I rather liked it, for I was proud of my skill, and tried to believe that I was as tough as the timber I mauled, though this and other heavy jobs stopped my growth and earned for me the title, 'Runt of the family.'

In those early days, before the great labor-saving machines came to our help, almost everything connected with wheat-raising abounded in trying work, — sowing, cradling in the long sweaty dog-days, raking and binding, stacking, thrashing, — and it often seemed to me that our fierce, over-industrious way of getting the grain from the ground was closely connected with grave-digging. The staff of life, naturally beautiful, oftentimes suggested the grave-digger's spade. Men and boys, and in those days even women and girls, were cut down while cutting the wheat. The fat folk grew lean and the lean leaner, while the rosy cheeks, brought from Scotland and other cool countries across the sea, soon faded to yellow, like the wheat. We were all made slaves through the vice of over-industry.

The same was in great part true in making hay to keep the cattle and horses through the long winters. We were called in the morning at four o'clock and seldom got to bed before

nine, making a broiling, seething day, seventeen hours long, loaded with heavy work, while I was only a small stunted boy; and a few years later my brothers David and Daniel, and my older sisters, had to endure about as much as I did. In the harvest dog-days and dog-nights and dog-mornings, when we arose from our clammy beds, our cotton shirts clung to our backs as wet with sweat as the bathing-suits of swimmers, and remained so all the long sweltering days. In mowing and cradling, the most exhausting of all the farm-work, I made matters worse by foolish ambition in keeping ahead of the hired men.

Never a warning word was spoken of the dangers of overwork. On the contrary, even when sick, we were held to our tasks as long as we could stand. Once in harvest-time I had the mumps and was unable to swallow any food except milk, but this was not allowed to make any difference, while I staggered with weakness, and sometimes fell headlong among the sheaves. Only once was I allowed to leave the harvest-field — when I was stricken down with pneumonia. I lay gasping for weeks, but the Scotch are hard to kill and I pulled through. No physician was called, for father was an enthusiast and always said and believed that God and hard work were by far the best doctors.

None of our neighbors were so excessively industrious as father; though nearly all of the Scotch, English, and Irish worked too hard, trying to make good homes and to lay up money enough for comfortable independence. Excepting small garden-patches, few of them had owned land in the old country. Here their craving land-hunger was satisfied, and they were naturally proud of their farms and tried to keep them as neat and clean and well-tilled as gardens. To accomplish this without the means for hiring help was im-

possible. Flowers were planted about the neatly-kept log or frame houses; barn-yards, granaries, and so forth, were kept in about as neat order as the homes, and the fences and corn-rows were rigidly straight. But every uncut weed distressed them; so also did every ungathered ear of grain, and all that was lost by birds and gophers; and this over-carefulness bred endless work and worry.

As for money, for many a year there was precious little of it in the country for anybody. Eggs sold at six cents a dozen in trade, and five-cent calico was exchanged at twenty-five cents a yard. Wheat brought fifty cents a bushel in trade. To get cash for it before the Portage Railway was built it had to be hauled to Milwaukee, a hundred miles away. On the other hand, food was abundant, — eggs, chickens, pigs, cattle, wheat, corn, potatoes, garden vegetables of the best, and wonderful melons, as luxuries. No other wild country I have ever known extended a kinder welcome to poor immigrants. Arriving in the spring, a log house could be built, a few acres ploughed, the virgin sod planted with corn, potatoes, and so forth, and enough raised to keep a family comfortably the very first year; and wild hay for cows and oxen grew in abundance on the numerous meadows. The American settlers were wisely content with smaller fields and less of everything, kept indoors during excessively hot or cold weather, rested when tired, went off fishing and hunting at the most favorable times and seasons of the day and year, gathered nuts and berries, and, in general, tranquilly accepted all the good things the fertile wilderness offered.

v

After eight years of this dreary work of clearing the Fountain Lake farm,

fencing it, and getting it in perfect order, a frame house built, and the necessary outbuildings for the cattle and horses, — after all this had been victoriously accomplished, and we had made out to escape with life, — father bought a half-section of wild land about four or five miles to the eastward and began all over again to clear and fence and break up other fields for a new farm, doubling all the stunting, heart-breaking chopping, grubbing, stump-digging, rail-splitting, fence-building, barn-building, house-building, and the rest.

By this time I had learned to run the breaking plough; most of them were very large, turning furrows from eighteen inches to two feet wide, and were drawn by four or five yoke of oxen. These big ploughs were used only for the first ploughing, in breaking up the wild sod woven into a tough mass chiefly by the cordlike roots of perennial grasses and reinforced by the tap-roots of oak and hickory bushes, called 'grubs,' some of which were more than a century old and four or five inches in diameter. In the hardest ploughing on the most difficult ground the grubs were said to be as thick as the hair on a dog's back. If in good trim, the plough cut through and turned over these grubs as if the century-old wood were soft like the flesh of carrots and turnips; but if not in good trim, the grubs promptly tossed the plough out of the ground. A stout Highland Scot, our neighbor, whose plough was in bad order and who did not know how to trim it, was vainly trying to keep it in the ground by main strength, and his son, who was driving and merrily whipping up the cattle, would cry encouragingly, 'Haud her in, fayther! Haud her in!' 'But hoo i' the deil can I haud her in when she'll no stop in?' his perspiring father would reply, gasping for breath after each word.

On the contrary, when in perfect trim, with the share and coulter sharp, the plough, instead of shying at every grub and jumping out, ran straight ahead, without need of steering or holding, and gripped the ground so firmly that it could hardly be thrown out at the end of the furrow.

Our breaker turned a furrow two feet wide, and on our best land held so firm a grip that, at the end of the field, my brother, who was driving the oxen, had to come to my assistance in throwing it over on its side to be drawn around the end of the landing; and it was all I could do to set it up again. But I learned to keep that plough in such trim that after I got started on a new furrow I used to ride on the cross-bar between the handles, with my feet resting comfortably on the beam, without having to steady or steer it in any way until it reached the other end, unless we had to go around a stump, for it sawed through the biggest grubs without flinching.

The growth of these grubs was interesting to me. When an acorn or hickory nut had sent up its first season's sprout, a few inches long, it was burned off in the autumn grass-fires; but the root continued to hold on to life, formed a callous over the wound, and sent up one or more shoots the next spring. Next autumn these new shoots were burned off, but the root and calloused head, about level with the surface of the ground, continued to grow and send up more new shoots; and so on, almost every year, until the trees were very old, probably far more than a century, while the tops, which would naturally have become tall, broad-headed trees, were only mere sprouts, seldom more than two years old. Thus the ground was kept open like a prairie, with only five or six trees to the acre, which had escaped the fire by having the good fortune to grow on a

bare spot at the door of a fox or badger den, or between straggling grass-tufts wide apart on the poorest sandy soil. The uniformly rich soil of the Illinois and Wisconsin prairies produced so close and tall a growth of grasses for fires that no tree could live on it. Had there been no fires, these fine prairie-spots, so marked a feature of the country, would have been covered by the heaviest forests. As soon as the oak openings in our neighborhood were settled, and the farmers prevented from running grass-fires, the grubs grew up into trees, and formed tall thickets so dense that it was difficult to walk through them, and every trace of the sunny 'openings' vanished.

We called our second farm Hickory Hill, from its many fine hickory trees, and the long gentle slope leading up to it. Compared with Fountain Lake farm it lay high and dry. The land was better, but it had no living water, no spring or stream or meadow or lake. A well ninety feet deep had to be dug, all except the first ten feet or so, in fine-grained sandstone. When the sandstone was struck, my father, on the advice of a man who had worked in mines, tried to blast the rock; but, from lack of skill, the blasting went on very slowly, and father decided to have me do all the work with mason's chisels, a long hard job with a good deal of danger in it. I had to sit cramped in a space about three feet in diameter, and wearily chip, chip, with heavy hammer and chisels, from early morning until dark, day after day, for weeks and months. In the morning, Father and David lowered me in a wooden bucket by a windlass, hauled up what chips were left from the night before, then went away to the farm-work and left me until noon, when they hoisted me out for dinner. After dinner I was promptly lowered again, the forenoon's accumulation of chips hoisted



out of the way, and I was left until night.

One morning, after the dreary bore was about eighty feet deep, my life was all but lost in deadly choke-damp, — carbonic acid gas that had settled at the bottom during the night. Instead of clearing away the chips as usual when I was lowered to the bottom, I swayed back and forth and began to sink under the poison. Father, alarmed that I did not make any noise, shouted, 'What's keeping you so still?' to which he got no reply. Just as I was settling down against the side of the wall I happened to catch a glimpse of a branch of a bur-oak tree which leaned out over the mouth of the shaft. This suddenly awakened me, and, to father's excited shouting, I feebly murmured, 'Take me out.' But when he began to hoist he found I was not in the bucket, and in wild alarm shouted, 'Get in! Get in the bucket and hold on! Hold on!' Somehow I managed to get into the bucket, and that is all I remembered until I was dragged out, violently gasping for breath.

One of our near neighbors, a stonemason and miner by the name of William Duncan, came to see me, and, after hearing the particulars of the accident, he solemnly said, 'Weel! John-

nie, it's God's mercy that you're alive. Many a companion of mine have I seen dead with choke-damp, but none that I ever saw or heard of was so near to death in it as you were and escaped without help.' Mr. Duncan taught father to throw water down the shaft to absorb the gas, and also to drop a bundle of brush or hay attached to a light rope, dropping it again and again to carry down pure air and stir up the poison. When, after a day or two, I had recovered from the shock, father lowered me again to my work, after taking the precaution to test the air with a candle and stir it up well with a brush and hay-bundle. The weary hammer and chisel-clipping went on as before, only more slowly, until ninety feet down, when at last I struck a fine hearty gush of water. Constant dropping wears away stone. So does the constant chipping, while at the same time wearing away the chipper. Father never spent an hour in that well. He trusted me to sink it straight and plumb, and I did, and built a fine covered top over it, and swung two iron-bound buckets in it from which we all drank for many a day.

[There will be a further installment of John Muir's autobiography in the February number.]